THE NECESSITY OF SULFUR CARRIERS IN ARTIFICIAL FERTILIZERS.¹

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INTRODUCTION.

Fifteen or eighteen years ago known facts would not have justified the American Society of Agronomy in even asking the question which I am to discuss today, let alone devoting an entire number of a symposium to its consideration.

Upon the basis of their work on the soils of Essex, England, Dymond, Hughes and Jupe (9) drew the following conclusions — most striking for that time: "There is not enough sulphuric acid in the soil or supplied by rain for heavy yielding crops rich in albuminoids, either for the production of greatest yields or highest feeding value, and for such crops it should be included in the artificial manure. "For cereal crops and for permanent pasture the soil and rain supply all the sulphuric acid necessary."

Since then many data have accumulated upon this subject, justifying attention to it.

Not the least of the facts that challenge serious attention to this subject is the rather general sulfur hunger shown by leguminous crops, especially alfalfa, grown in the soils of Oregon, Washington and adjoining States (17, 24, 27, 28, 30 and 41). Cases appear there in which the addition of sulfur of any sort increases the yields 500% to 1000% and increases in yields amounting to 50% to 500% are common.

The reclamation of the lands of northwestern United States for the growth of leguminous crops by the addition of sulfur bearing

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³ Reference by number is to "Literature cited," p. 139.